May 20, 2025
Analysis of Brownfield Cleanup Alternatives for
4116 West Silver Spring Drive

Introduction and Background

The Redevelopment Authority of the City of Milwaukee (RACM) was selected to administer a United States Environmental Protection Agency (USEPA) Brownfields Cleanup Revolving Loan Fund (BCRLF). The first Cooperative Agreement was received in 2002, which provided $1,000,000 in federal assistance over a five-year period. Additional Cooperative Agreements were received in 2003, 2004 (amended the 2003 agreement), 2005, 2006, 2007, 2008 (amended the 2007 agreement), 2009, 2011 (amended the 2009 agreement), 2012 (amended the 2009 agreement), 2013 (amended the 2009 agreement), 2014, 2023, and 2024 (amended the 2023 agreement) respectively for a total of $16,700,000.

On June 12, 2025, a Resolution will be introduced that will allow for RACM to provide up to a $1,250,000 loan to Historic Patterson Place, LLC for an affordable housing development project from the USEPA BCRLF Program to support environmental remediation at the property located at 4116 West Silver Spring Drive, Milwaukee, Wisconsin.

The current owner of the property is "City of Milwaukee, a Wisconsin municipal corporation, on behalf of the Milwaukee Board of School Directors" (Milwaukee Public Schools - MPS). The future owner of the site and borrower will be Historic Patterson Place, LLC. Based on a review of records, it was not readily clear when or from whom the property was acquired in order to build the school. According to "Milwaukee Public Schools: Architectural and Historical Intensive Survey Report" prepared for the Wisconsin Historical Society in August 2019, the school was constructed in stages beginning in 1916 with a four-classroom, one story building, built by the Town of Granville as part of the Carleton School District. Additions were constructed in 1927, 1935, 1936, and 1940. In 1948, the area around the school was annexed by the City of Milwaukee and the school became part of the MPS system. In 1949-1952, residential lots to the north of the existing school building were acquired in order to expand the school property for sporting fields. In the early 2000's, the fields were converted to pavement. The school was decommissioned as a school on June 30, 2009 and has not been used since that time.

Hazardous contaminants are likely related to historic building materials (lead-based paint and asbestos) and potentially contaminated fill brought in after demolition of the residences. An asbestos inspection report was prepared in April 2009 which identified the presence of some asbestos-containing materials (ACM). Initial site assessment activities were conducted in December 2024 and identified the presence of select polynuclear aromatic hydrocarbons (PAHs) and arsenic in some soil borings above WDNR residual contaminant levels (RCLs).

An AAI Phase I Environmental Site Assessment was completed on February 12, 2025 for Historic Patterson Place, LLC (the loan applicant and future property owner) to ensure the future owner is considered a bona fide prospective purchaser.

Phase II site investigation activities were initiated by Friess Environmental Consulting, Inc (FEC) in December 2024 to investigate Recognized Environmental Conditions identified in the Phase I ESA – primarily the potential presence of fill material associated with demolition of the former residential properties in the northern portion of the site. Initial site investigation results identified the presence of select polynuclear aromatic hydrocarbons (PAHs) (benzo[a]pyrene, benzo[b]fluoranthene, and chrysene) and arsenic in some soil borings above WDNR residual contaminant levels (RCLs). Based on the contaminant concentrations identified, the Wisconsin Department of Natural Resources (WDNR) was notified and an Environmental Repair Site (ERP) (BRRTS #02-41-596278) activity was opened. FEC intends to conduct additional soil sampling in late May/early June to complete soil delineation. Following the sampling work, FEC intends to prepare a site investigation report, a soil management plan, a historic fill exemption, and a remedial action plan prior to redevelopment activities.

Applicable Regulations and Cleanup Standards

Notification of a release and assignment of BRRTS numbers by the Southeast Region of the Wisconsin Department of Natural Resources (WDNR) is complete, and therefore the site is subject to the requirements of Section 292.11 (3) Wisconsin Statutes (hazardous substances spill law) and Wisconsin Administrative Code chapters NR 700 through NR 749 (which establish requirements for emergency and interim actions, public information, site investigations, design and operation of remedial action systems, and case closure). The borrowers, in coordination with qualified consultants, will complete a Site Investigation and Remedial Action Plan for the site in accordance with all applicable state statutes and WAC chapters. The Remedial Action Plan will be submitted to WDNR for comment and approval prior to cleanup and will form the basis for the cleanup activities.

Cleanup at the site will continue to be monitored by staff at the WDNR. Cleanup will be targeted to meet relevant industrial standards set forth in Wisconsin Administrative Code (WAC) chapter NR 720 (Soil Cleanup Standards) and WAC chapter NR 746 (Risk screening and closure criteria for petroleum product contaminated sites, and agency roles and responsibilities).

Evaluation of Cleanup Alternatives

This section identifies various remediation alternatives that could be used to address the environmental contamination issues at the 4116 West Silver Spring Drive site. The “No Action Alternative” is used as the baseline against which the other alternatives are analyzed.

The following broad categories of evaluation criteria were considered in assembling remediation alternatives at the site: effectiveness, implementability, cost, and impacts from potential extreme weather events.

Alternative One – No Action

The no-action response involves no remediation of residual impacted soil at the site. This response typically serves as a baseline against which the other remedial options and technologies can be compared. The no-action response may be used as the sole remedial action only in the event the prevailing site conditions lead to the determination that the site poses no significant risk to human health or the environment with no controls in place. In that event, implementation of other types of

action becomes unnecessary.

1. Effectiveness – The no-action alternative would not address the PAH or metals impacted soil. This alternative would not take action to protect public health, safety, and welfare and the environment.
2. Implementability – This alternative is implementable.
3. Cost – This alternative was considered the lowest in terms of present worth cost and disruption to the site. It has no associated capital costs or operation and maintenance costs, although indirect costs of the no action alternative will include a continued blighting influence on surrounding properties which would be manifested in lower property values and a decreased tax base.
4. Impact of potential extreme weather events – The United States Global Change Research Program finds that the Midwest region will likely see future climate changes that include an overall increase in winter and summer temperatures, increasing numbers of hot days, and an increasing numbers of wet days. Climate change impacts to the No Action Alternative are expected to be minimal as the site is not near a coastline or in a floodplain.

Alternative Two – Excavation and Off-Site Disposal at Permitted Facility

Additional excavation and off-site disposal of soil in the areas with residual impacts was evaluated as a possible remedial alternative. Under this alternative, the estimation assumed the excavation and offsite disposal of the impacted fill at a permitted disposal facility as part of the construction of new townhomes at the northern portion of the parcel. This alternative includes the removal of an estimated 10,000 cubic yards of historic fill.

1. Effectiveness – This alternative would be effective, however this alternative on its own would not address any residual contamination that remains at the site outside of the area of excavation for the townhomes. In the short term, excavation and off-site transport of impacted soil would temporarily increase hazards to site workers and the public due to the necessary handling and transportation of these soils. In the long term, excavation and off-site disposal would reduce the magnitude of existing risk at the site by contaminant mass removal compared to no action.
2. Implementability – The implementability of this remedial alternative is high given that this area would already be disturbed as part of construction of the new townhomes, and that excavation and off-site disposal is a common remedial method with which contractors are familiar.
3. Cost – The estimated capital costs for removal and disposal of contaminated soil is $765,584 based on a contractor cost estimate.
4. Impact of potential extreme weather events – The United States Global Change Research Program finds that the Midwest region will likely see future climate changes that include an overall increase in winter and summer temperatures, increasing numbers of hot days, and an increasing numbers of wet days. Climate change impacts to the Excavation and Off-Site Disposal at Permitted Facility Alternative are expected to be minimal as the site is not near a coastline or in a floodplain.

Alternative Three – Engineering and Institutional Controls

This alternative includes engineered barriers to cap residual contamination and institutional controls. Utilization of the planned redevelopment cover material (building, pavement, and soil cover, depending

on final delineation of contaminated soil area) was evaluated as a long-term remedy to address the residual impacts at the Site. The site would be listed on the WDNR database to notify the public of residual soil impacts. The associated institutional controls would be required for long-term assurance that the remedy remains protective over time.

1. Effectiveness – This alternative would be partially effective, however on its own, would not address soil management that would be necessary to construct the project according to building plans. In terms of technical feasibility, engineering and institutional controls would, upon implementation, increase the protection of site workers, residents, and the public.
2. Implementability – The implementability of this alternative is high. The use of engineered barriers and institutional controls in conjunction with the WDNR database for soil RCL exceedances is an existing proven mechanism.
3. Cost – The estimated capital cost for this alternative is $651,319 based on a contractor cost estimate for concrete slab-on-grade, asphalt, top soil and seeding.
4. Impact of potential extreme weather events – The United States Global Change Research Program finds that the Midwest region will likely see future climate changes that include an overall increase in winter and summer temperatures, increasing numbers of hot days, and an increasing numbers of wet days. Climate change impacts to the Engineering and Institutional Controls Alternative are expected to be minimal as the site is not near a coastline or in a floodplain.

Alternative Four – Abatement of Asbestos and Lead in Existing Structure

This alternative addresses abatement activities that would be required for the portion of the overall project that entails renovation and retrofitting of the existing school building into new residential units. Both asbestos abatement and lead abatement would be conducted as part of this alternative.

1. Effectiveness – This alternative would be effective at addressing building renovation issues, however on its own, would not address impacts related to the construction of townhomes in the northern portion of the site. In terms of technical feasibility, this alternative would, upon implementation, increase the protection of site workers, residents, and the public.
2. Implementability – The implementability of this alternative is high. Asbestos and lead abatement is a proven mechanism that contractors understand.
3. Cost – The estimated capital cost for this alternative is $366,500 based on a contractor cost estimate.
4. Impact of potential extreme weather events – The United States Global Change Research Program finds that the Midwest region will likely see future climate changes that include an overall increase in winter and summer temperatures, increasing numbers of hot days, and an increasing numbers of wet days. Climate change impacts to the Abatement of Asbestos and Lead in Existing Structure Alternative are expected to be minimal as the site is not near a coastline or in a floodplain.

Recommendation

The Remedial Alternatives were evaluated based on their effectiveness, their feasibility of implementation, the costs of each alternative, and the impact of potential extreme weather events. Based

on the above evaluation, the selected final remedy is a combination of Alternative Two (Excavation and Off-Site Disposal at Permitted Facility), Alternative Three (Engineering and Institutional Controls), and Alternative Four (Abatement of Asbestos and Lead in Existing Structure) that will be able to comprehensively address all contaminants present at this site, both in building, and in ground. As a whole, this alternative provides both the most efficient cleanup strategy and the best protection for human health and the environment.